

Top line = human pleiotrophin (SEQ ID NO:1)  
Bottom line = mouse pleiotrophin (SEQ ID NO:2)

|  |     |     |     |     |     |
|--|-----|-----|-----|-----|-----|
| 10   | 20  | 30  | 40  | 50  | 60  |
| MQAQQYQQRRKF <del>AAA</del> FLAFIFILAAVDTAEGKKEKPEKKVKKSDCGEWQWSVCVPTSG  |     |     |     |     |     |
| MSSQQQYQQRRKF <del>AAA</del> FLALIFILAAVDTAEGKKEKPEKKVKKSDCGEWQWSVCVPTSG |     |     |     |     |     |
| 90   | 100 | 110 | 120 | 130 | 140 |
| DCGLGTREGTRTGAECKQTMKTQRCKIPCNWKKQFGAECKYQFQAWGECDLNTALKTRTG             |     |     |     |     |     |
| DCGLGTREGTRTGAECKQTMKTQRCKIPCNWKKQFGAECKYQFQAWGECDLNTALKTRTG             |     |     |     |     |     |
| 150  | 160 | 170 | 180 |     |     |
| SLKRALHNAECQKTVTISKPCGKLTKPKPQAESKKKKKEGKKQEKMLD                         |     |     |     |     |     |
| SLKRALHNAD <u>C</u> QKTVTISKPCGKLTKPKPQAESKKKKKEGKKQEKMLD                |     |     |     |     |     |

**FIG. 1A**

Amino acid sequence (SEQ ID NO:3) and the nucleotide sequence (SEQ ID NO:4) of the heavy chain variable region (VH) of 3B10.

CAGGTT CAGCTGCAGCAGTCTGGACCTGAGCTGGTGAAGCCTGGGGCCTCAGTGAAGATT  
Q V Q L Q Q S G P E L V K P G A S V K I

TCCTGCCAAGCTTCTGGCTACGCATT CAGTAGCCACTGGATGAACTGGGTGAAGCAGAGG  
S C Q A S G Y A F S S H W M N W V K Q R

CCTGGAAAGGGTCTTGAGTGGATTGGACGGATTTATCCTGGAGATGGAGATTCTCTCTAC  
P G K G L E W I G R I Y P G D G D S L Y

AATGGGAAGTTCAAGGGCAAGGCCACACTGACTGCAGACAAATCCTCCACCACAGTCTAC  
N G K F K G K A T L T A D K S S T T V Y

ATGCAGCTCAGCAGCCTGACATCTGAGGACTCTGCGGTCTACTTCTGTGCAAGAACGAGG  
M Q L S S L T S E D S A V Y F C A R T R

GCTTATGGTCCCGCCTGGTTTGCTTACTGGGGCCAAGGGA CTCTGGTCACTGTCTCT  
A Y G P A W F A Y W G Q G T L V T V S

GCA  
A

FIG. 1B

Amino acid sequence (SEQ ID NO:8) and the nucleotide sequence (SEQ ID NO:9) of the light chain variable region (VL) of 3B10.

GACATTGTGATGACACAGTCTCCATCCTCCCTGGCTATGTCAGTAGGACAGAAG

D I V M T Q S P S S L A M S V G Q K

GTCACCTTTGAGCTGCAGGTCCAGTCAGAGTCTTTTAGATAGTAACAATCAAAAGAAC

V T L S C R S S Q S L L D S N N Q K N

TATTTGGCCTGGTACCAGCAGAAACCGGGACAGTCTCCTAAACTTCTGGTATACYTT

Y L A W Y Q Q K P G Q S P K L L V Y -

GCATCTATTAGGGAATCTGGGGTCCCTGATCGCTTCATAGGCAGTGGATCTGGGACA

A S I R E S G V P D R F I G S G S G T

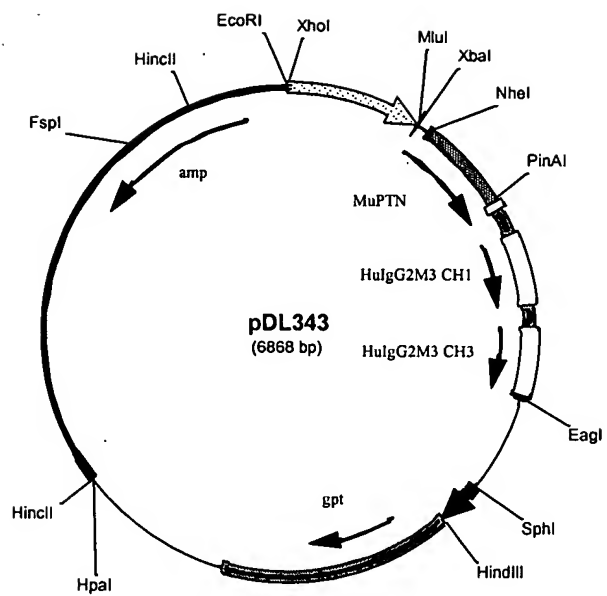
GATTTCACTCTTACCATCACCAGTGTGCAGGCTGAAGACCTGGCAGATTATTTCTGT

D F T L T I T S V Q A E D L A D Y F C

CAGCAACATTATAGCACTCCCCTCACGTTTCGGTGCTGGGACCAAGCTGGAGCTGAAA

Q Q H Y S T P L T F G A G T K L E L K

**FIG. 1C**



**FIG. 2**

Amino acid sequence of the murine PTN-Fc fusion protein (SEQ ID NO:13)

|   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |     |     |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----|-----|
| M | G | W | S | W | I | F | L | F | L | L | S | G | T | A | S | V | H | S | G | 10  | 20  |
| K | K | E | K | P | E | K | K | V | K | K | S | D | C | G | E | W | Q | W | S | 30  | 40  |
| V | C | V | P | T | S | G | D | C | G | L | G | T | R | E | G | T | R | T | G | 50  | 60  |
| A | E | C | K | Q | T | M | K | T | Q | R | C | K | I | P | C | N | W | K | K | 70  | 80  |
| Q | F | G | A | E | C | K | Y | Q | F | Q | A | W | G | E | C | D | L | N | T | 90  | 100 |
| A | L | K | T | R | T | G | S | L | K | R | A | L | H | N | A | D | C | Q | K | 110 | 120 |
| T | V | T | I | S | K | P | C | G | K | L | T | K | P | K | P | Q | A | E | S | 130 | 140 |
| K | K | K | K | K | E | G | K | K | Q | E | K | M | L | D | T | G | G | G | E | 150 | 160 |
| R | K | C | C | V | E | C | P | P | C | P | A | P | P | A | A | A | P | S | V | 170 | 180 |
| F | L | F | P | P | K | P | K | D | T | L | M | I | S | R | T | P | E | V | T | 190 | 200 |
| C | V | V | V | D | V | S | H | E | D | P | E | V | Q | F | N | W | Y | V | D | 210 | 220 |
| G | V | E | V | H | N | A | K | T | K | P | R | E | E | Q | F | N | S | T | F | 230 | 240 |
| R | V | V | S | V | L | T | V | V | H | Q | D | W | L | N | G | K | E | Y | K | 250 | 260 |
| C | K | V | S | N | K | G | L | P | A | P | I | E | K | T | I | S | K | T | K | 270 | 280 |
| G | Q | P | R | E | P | Q | V | Y | T | L | P | P | S | R | E | E | M | T | K | 290 | 300 |
| N | Q | V | S | L | T | C | L | V | K | G | F | Y | P | S | D | I | A | V | E | 310 | 320 |
| W | E | S | N | G | Q | P | E | N | N | Y | K | T | T | P | P | M | L | D | S | 330 | 340 |
| D | G | S | F | F | L | Y | S | K | L | T | V | D | K | S | R | W | Q | Q | G | 350 | 360 |
| N | V | F | S | C | S | V | M | H | E | A | L | H | N | H | Y | T | Q | K | S | 370 | 380 |
| L | S | L | S | P | G | K |   |   |   |   |   |   |   |   |   |   |   |   |   | 387 |     |

FIG. 3

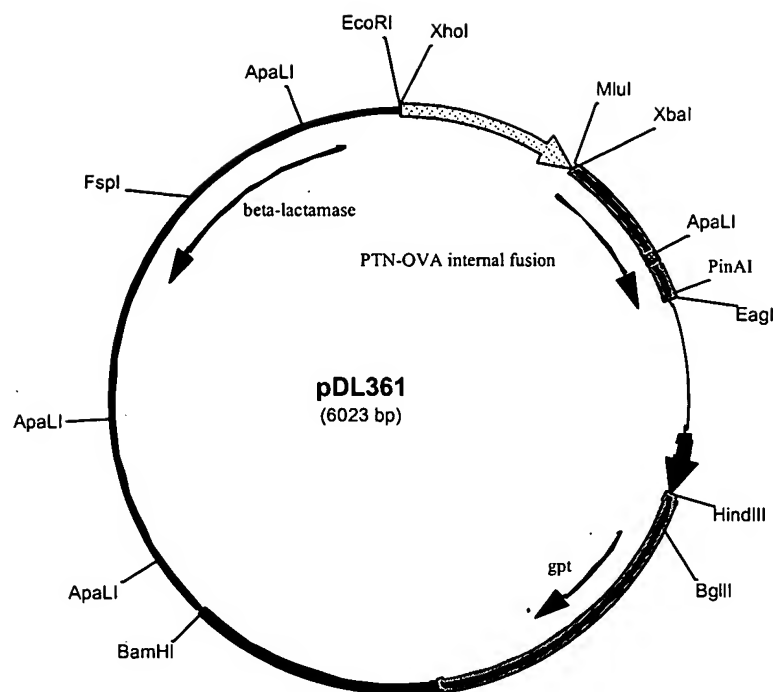


FIG. 4

Amino acid sequence of PTN-OVA fusion protein (SEQ ID NO:14). OVA insertion sequence (SEQ ID NO:15) is underlined.

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      10                                     20
M  Q  A  Q  Q  Y  Q  Q  Q  R  R  K  F  A  A  A  F  L  A  F

      30                                     40
I  F  I  L  A  A  V  D  T  A  E  A  G  K  K  E  K  P  E  K

      50                                     60
K  V  K  K  S  D  C  G  E  W  Q  W  S  V  C  V  P  T  S  G

      70                                     80
D  C  G  L  G  T  R  E  G  T  R  T  G  A  E  C  K  Q  T  M

      90                                     100
K  T  Q  R  C  K  I  P  C  N  W  K  K  Q  F  G  A  E  C  K

     110                                     120
Y  Q  F  Q  A  W  G  E  C  D  L  N  T  A  L  K  T  R  T  G

     130                                     140
S  L  K  R  Q  A  V  H  A  A  H  A  E  I  N  E  C  Q  K  T

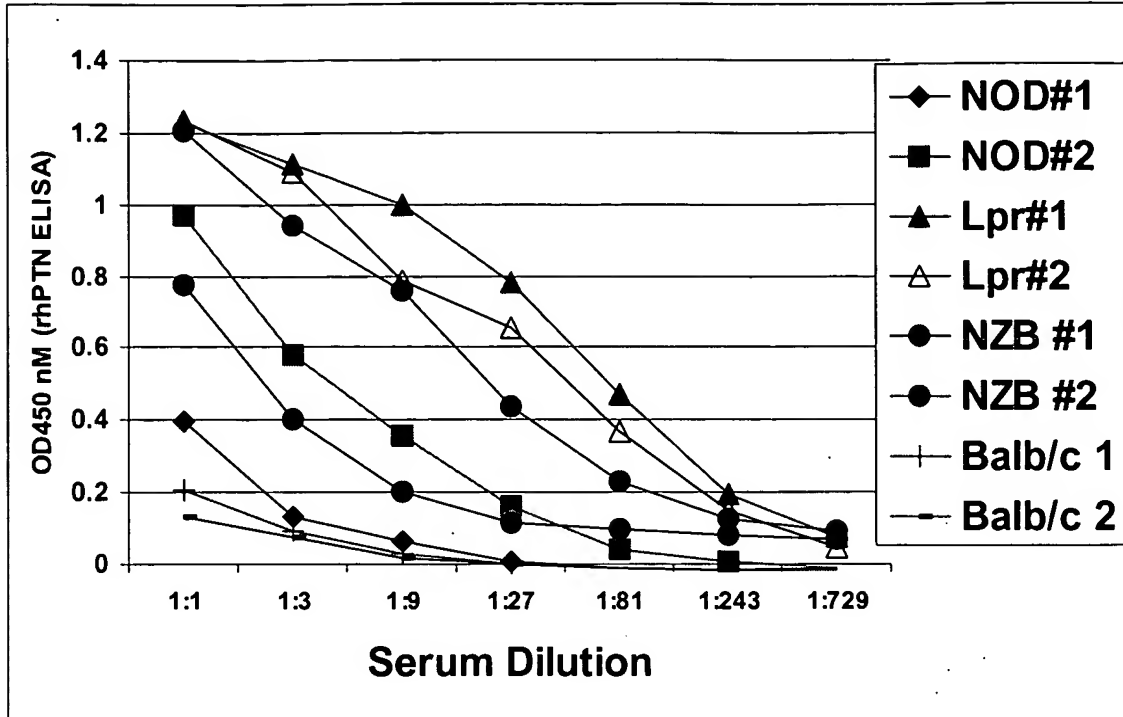
     150                                     160
V  T  I  S  K  P  C  G  K  L  T  K  P  K  P  Q  A  E  S  K

     170
K  K  K  K  E  G  K  K  Q  E  K  M  L  D

```

FIG. 5

(A)



(B)

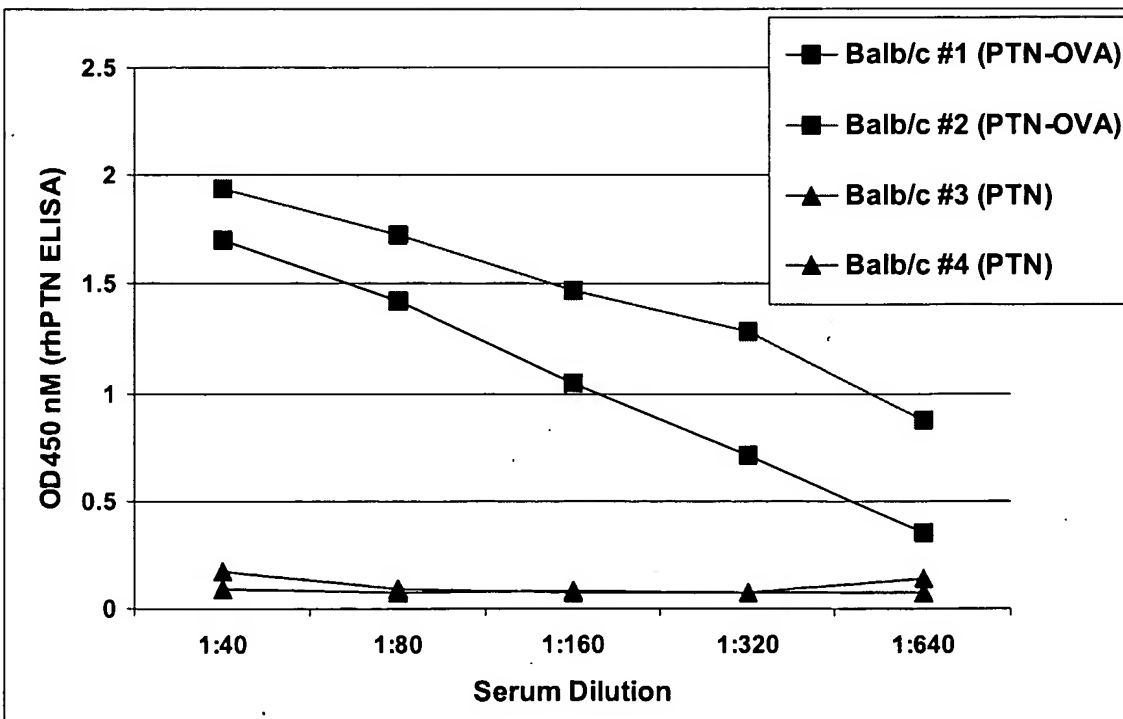


FIG. 6



(C)

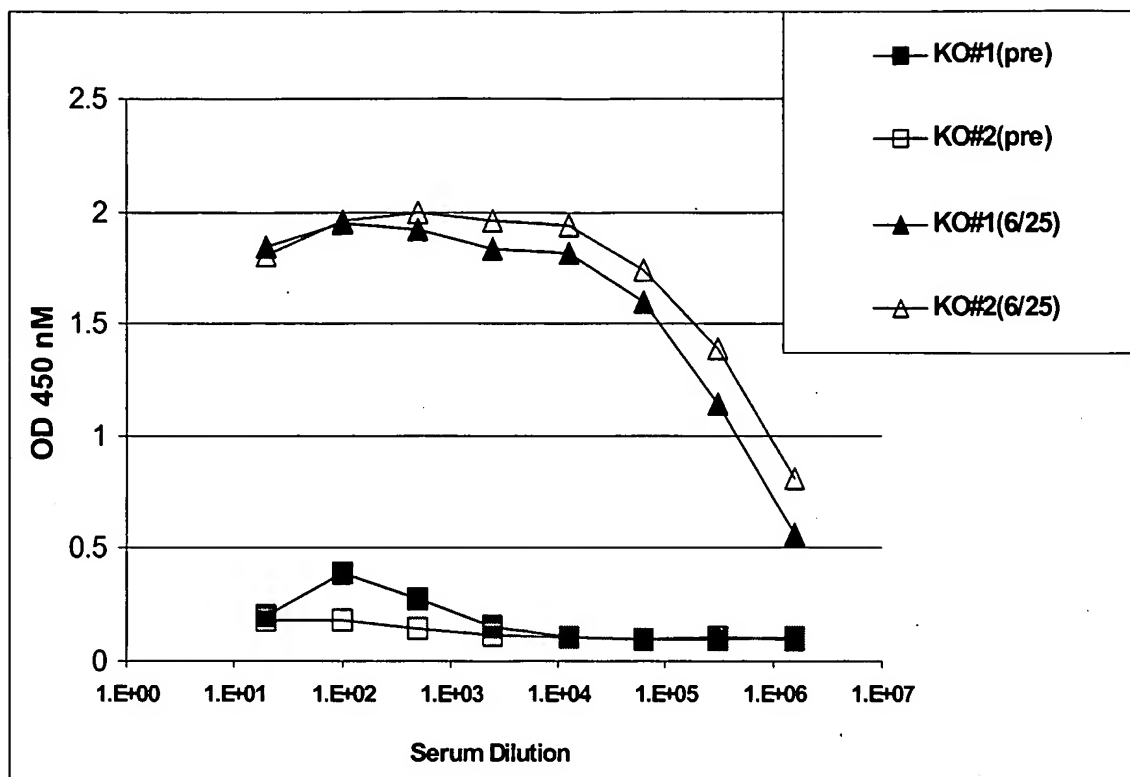


FIG. 6

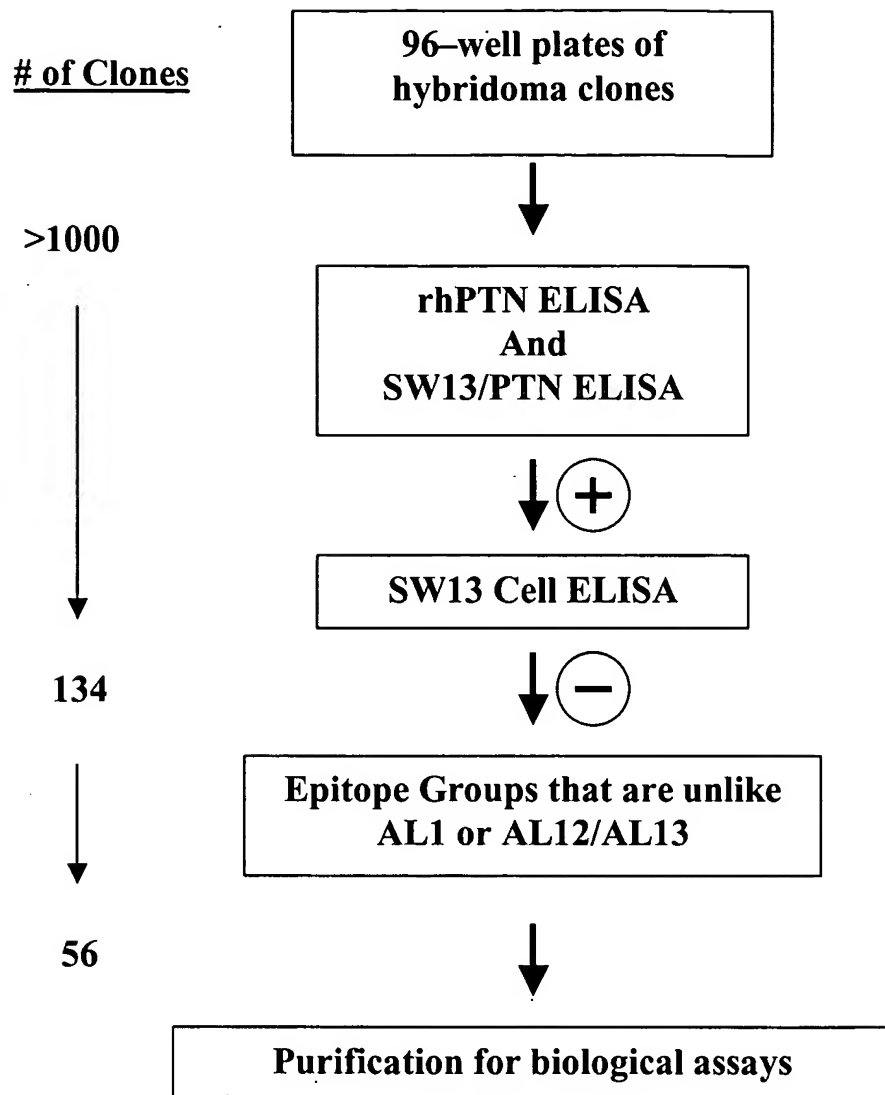


FIG. 7

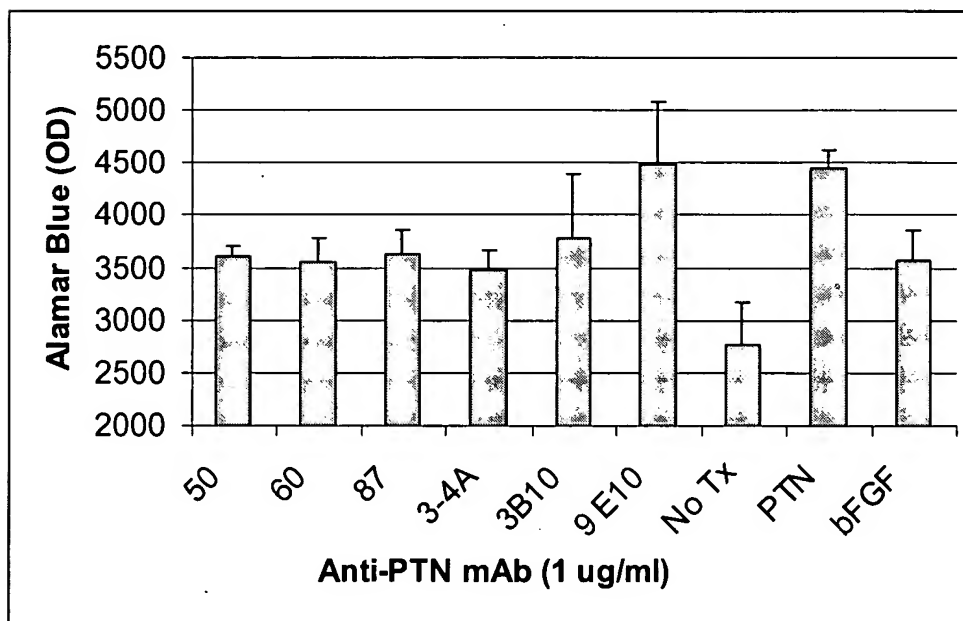
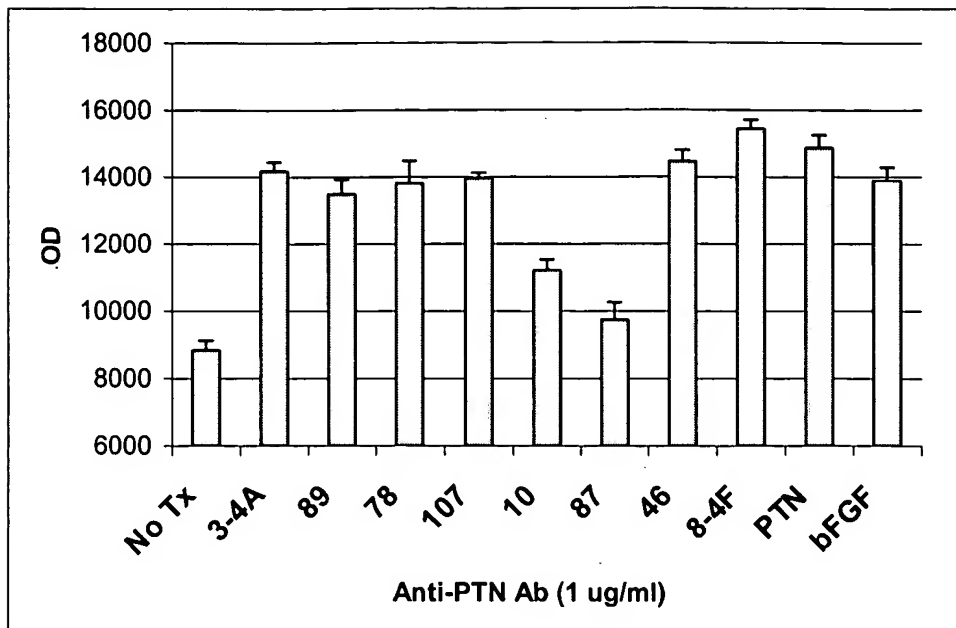


FIG. 8

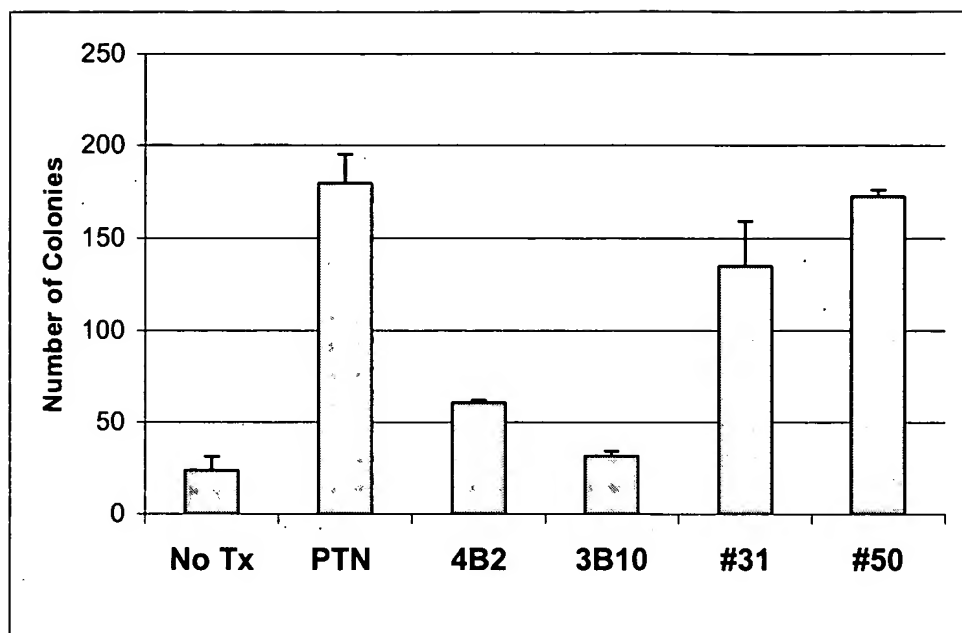
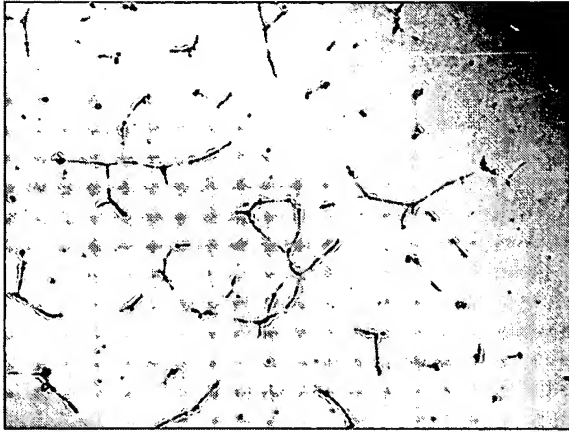


FIG. 9

SW13/PTN C.M



SW13/PTN C.M + #27 (5  $\mu$ g/ml).

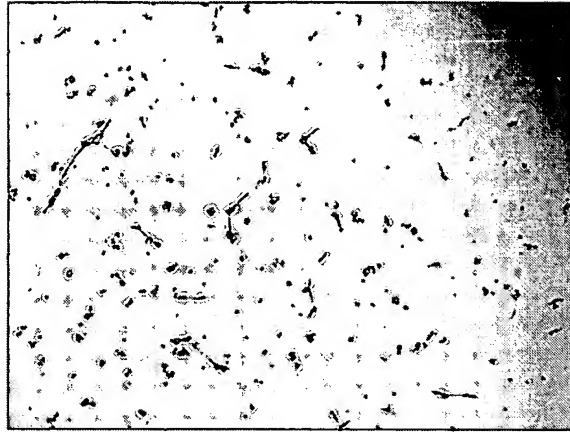


FIG. 10

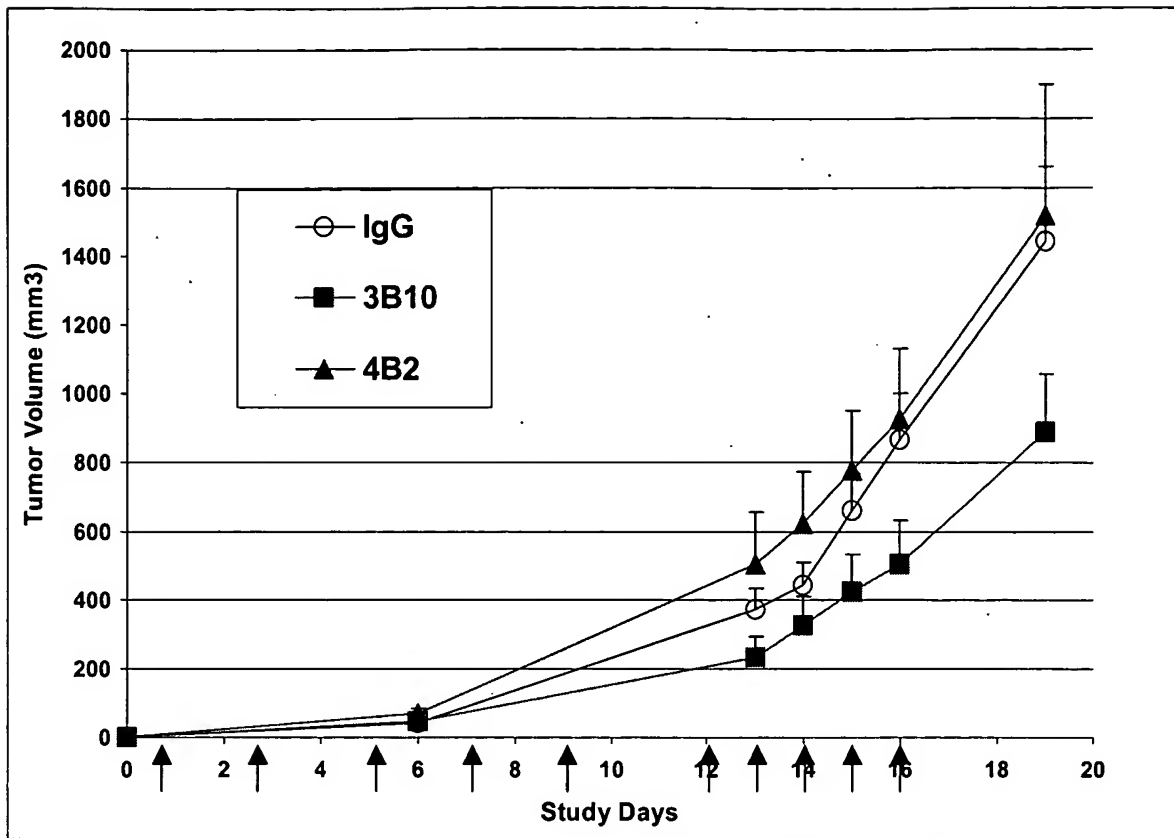


FIG. 11